

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	10/014220	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/21 16:52
L2	3	Shen NEAR Che-Kun NEAR James	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/21 16:53
L3	28	Shen NEAR james	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/21 16:53
L4	8	TCTGAGTCA	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/21 16:53
L5	11	HS-40 enhancer	US-PGPUB; USPAT; EPO; JPO; DERWENT	SAME	ON	2006/06/21 16:53
L6	14	zeta globin promoter	US-PGPUB; USPAT; EPO; JPO; DERWENT	WITH	ON	2006/06/21 16:55
L7	15	(zeta globin promoter) enhancer	US-PGPUB; USPAT; EPO; JPO; DERWENT	SAME	ON	2006/06/21 16:55
L9	16	(US-20020108134-\$ or US-20030233669-\$ or US-20020148000-\$ or US-20020133838-\$ or US-20050260165-\$).did. or (US-5919997-\$ or US-5827693-\$ or US-6451334-\$ or US-6172039-\$ or US-4822821-\$ or US-6303845-\$ or US-6147202-\$).did. or (US-20020108134-\$ or US-6303845-\$ or US-6022738-\$ or US-20020133838-\$).did.	US-PGPUB; USPAT; DERWENT	OR	ON	2006/06/21 16:56
L10	12	I9 and (I6 I5)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/21 16:56

=> d his

(FILE 'HOME' ENTERED AT 16:58:55 ON 21 JUN 2006)

FILE 'MEDLINE, SCISEARCH, CAPLUS, BIOSIS' ENTERED AT 16:59:11 ON 21 JUN 2006

L1 91 S (HS (2W) 40 OR HS-40) (L) ENHANCER
L2 37 DUP REM L1 (54 DUPLICATES REMOVED)
L3 13 S L2 AND PY<=1998
L4 13 SORT L3 PY
E SHEN CHE-KUN?/AU
L5 52 S E1
L6 2 S L5 AND L2

=> d ti so au ab pi 16 1-2

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
TI A strong variant of the **HS-40 enhancer** and
its use in expression vectors for transgenic animals
SO U.S. Pat. Appl. Publ., 13 pp., Cont.-in-part of U.S. Ser. No. 961,563.
CODEN: USXXCO
IN **Shen, Che-kun James**
AB A substitution mutant of the **HS-40 enhancer**
of ζ -globin gene promoter, a 350-400 bp **enhancer** element
located about 40 kb upstream of ζ -globin gene is used in expression
vectors for high level expression of foreign genes in transgenic animals.
HS-40 is the major *cis*-acting regulatory element
responsible for the developmental stage-and erythroid lineage-specific
expression of the human α -like globin genes, the embryonic ζ
and the adult α_2/α_1 . A single nucleotide change in the
3'NF-E2/AP1 element of the human **HS-40**
enhancer, unlike the wild type **HS-40**
enhancer, confers position-independent and copy number-dependent
expression on a transgene. The mutation also relieves the developmental
regulation of expression from the promoter of the ζ -globin gene. In
addition, the single nucleotide change allows expression of the gene in the
cells of an adult mouse, an effect not seen for the wild type **HS**
-40 enhancer. The transgenic animal may include pig,
rat, cow, rabbit, goat, guinea pig, prairie baboon, squirrel, monkey,
chimpanzee, bird, frog, toad, chicken, turkey and sheep. The generation
of transgenic mice expressing a growth hormone gene in erythroblasts using
the **HS-40(mt)** **enhancer** and the ζ -globin
promoter is demonstrated. Serum growth hormone levels of up to 6,490
ng/mL were obtained.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
PI US 2002148000	A1	20021010	US 2001-14220	20011109
US 6303845	B1	20011016	US 2000-536094	20000324
US 2002133838	A1	20020919	US 2001-961563	20010920

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN
TI Vectors containing mutated **HS-40 enhancer** of
 ζ -globin gene promoter and its regulation of transgene expression in
transgenic mice
SO U.S., 7 pp., Division of U.S. Ser. No. 205,015, abandoned.
CODEN: USXXAM

IN **Shen, Che-Kun James**
AB The invention relates to a mutated **HS-40**
enhancer of ζ -globin gene promoter, a 350-400 bp
enhancer element located about 40 kb upstream of ζ -globin
gene. **HS-40** is the major *cis*-acting regulatory
element responsible for the developmental stage-and erythroid
lineage-specific expression of the human α -like globin genes, the

embryonic ζ and the adult $\alpha 2/\alpha 1$. The invention is based on the discovery that a single nucleotide change in the 3'NF-E2/AP1 element of the human **HS-40 enhancer**, unlike the wild type **HS-40 enhancer**, confers position-independent and copy number-dependent expression on a transgene. In addition, the single nucleotide change allows expression of the gene in the cells of an adult mouse, an effect not seen for the wild type **HS-40 enhancer**. Accordingly, the invention provides a viral expression vector (e.g., a retrovirus) expressing a transgene regulated by (1) a transcriptional start site; (2) a promoter (e.g., a tissue-specific promoter such as ζ -globin promoter) operably linked to the transcriptional start site; and (3) the above mutated **HS-40 enhancer** operably linked to the promoter.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6303845	B1	20011016	US 2000-536094
	TW 585913	B	20040501	TW 1999-88121251
	US 2002133838	A1	20020919	US 2001-961563
	US 2002108134	A1	20020808	US 2001-977432
	US 2002148000	A1	20021010	US 2001-14220
	US 2005260165	A1	20051124	US 2005-103355

=>